

Application No.: 10/809,261
Response to OA of 03/13/06

Remarks

In the present response, no claims are amended. Claims 1-20 are presented for examination.

I. Claim Rejections: 35 USC § 102

Claims 1-12 and 14-20 are rejected under 35 USC § 103 as being unpatentable over Kronmiller in view of USPN 2002/0118202 (Baldwin). This rejection is traversed.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art cited must teach or suggest all the claim limitations. See M.P.E.P. § 2143. For at least the following reasons, Applicants assert that the rejection does not satisfy these criteria.

No Suggestion/Motivation to Modify/Combine References

For at least the following reasons, no suggestion or motivation exists to modify or combine Kronmiller in view of Baldwin.

First, Applicants argue that no teaching or suggestion exists to make the combination because the references are directed to completely different inventions. Kronmiller is directed to generating N-dimensional hierarchical trees to organize data segments (5: 38-53). These hierarchical trees represent interconnection lines for designing layouts of an integrated circuit (4: 43-46). **By contrast, Baldwin teaches a completely different invention.** Baldwin teaches a graphics processing system that uses local caching “so that repeated accesses to the same tile can avoid pipelining delays connected with access to the main cache” ([0011]). More specifically, Baldwin teaches an improved graphics processing system that does not make multiple cache read requests for two tiles having a same address ([0019]).

The Examiner must provide *objective evidence*, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). Obviousness cannot be

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established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Such teaching or suggestion does not exist.

Second, Applicants argue that no teaching or suggestion exists to make the combination because the references are directed to solving completely different problems. In *Kronmiller*, the Background section discusses numerous problems associated with organizing and retrieving spatial data records. Specifically, the time required to query spatial data records is intolerably high (1: 40-48). **By contrast, Baldwin solves completely different problems.** Baldwin addresses a specific problem with cache operations in a pipelined system: "For read-modify-write memory or cache operations in a pipelined system where the reads and writes are separated by pipeline stages, there is always the problem that a second read of a location may start before the first write to the same location has completed" ([0017]).

To establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

In light of the completely different inventions and problems being solved in *Kronmiller* and *Baldwin*, no suggestion or motivation exists to combine or modify these references.

For at least these reasons, Applicants respectfully argue that a *prima facie* case of obviousness has not been established.

Response to Examiner's Arguments on Combination

The Examiner argues that the combination of *Kronmiller* and *Baldwin* is obvious. Specifically, the Examiner argues that using *Baldwin*'s rasterizer in *Kronmiller* "would classify the tiles into the tiles inside the primitive, tiles outside the primitive and tiles intersecting the primitive, so that no time is wasted in visiting tiles outside the primitive

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while building up the tile mask, and thus improving the processing time for computing the tile mask” (see OA at p. 2). Applicants respectfully disagree.

As discussed above, Kronmiller and Baldwin are directed to different inventions that solve different problems in the art. No motivation exists to combine these references. Instead, the Examiner is performing an improper piecemeal construction that uses hindsight to arrive at the claim elements. In other words, the Examiner is picking and choosing sentences or teachings from Kronmiller and Baldwin with hindsight of Applicants’ invention to allegedly obviate the pending claims. One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Further, Applicants respectfully argue that the Examiner is combining unrelated sections of Kronmiller and Baldwin. Kronmiller teaches a specific method for using an ng tree and generating attributes for border tiles. The rasterizer taught in Baldwin is not related to the portions of Kronmiller cited by the Examiner. In other words, the sections of Baldwin ([0104], [0111], [0119]) do not relate to Kronmiller’s methods and systems for using N-dimensional hierarchical trees to organize data segments.

No Reasonable Expectation of Success

No reasonable expectation of success has been established for modifying Kronmiller with the teachings of Baldwin to arrive at the recitations of the claims. In other words, even assuming *arguendo* that Kronmiller and Baldwin are combinable (which they are not), the combination will not yield a reasonable expectation of success.

Kronmiller teaches a specific method for using N-dimensional hierarchical trees to organize data segments and spatial data records for use in designing circuit boards. By contrast, Baldwin teaches a specific rasterizer subsystem that “will only rasterize rectangles and is located in the isochronous stream” ([0101]). The complex and specific rasterizer subsystem of Baldwin cannot simply be “forced” into Kronmiller’s system for using hierarchical trees. **This substitution or exchange simply will not work.** One skilled in the art knows that the complex and specific architecture disclosed in Baldwin’s rasterizer subsystem cannot be substituted into the n-dimensional hierarchical tree architecture of Kronmiller. Further, one skilled in the art knows that the term “rasterization” means

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converting a two-dimensional image described in a vector format into pixels or dots for output on a video display (see online Wikipedia for more information about raster graphics and rasterization: <http://en.wikipedia.org/wiki/Rasterisation>).

In view of these deficiencies, the Office Action has failed to establish a reasonable expectation of success with a combination or modification of Kronmiller and Baldwin. Therefore, the *prima facie* case of obviousness has not been established.

All Elements Not Taught or Suggested

All of the elements of the claims are not taught or suggested in Kronmiller and Baldwin. In other words, even assuming *arguendo* that Kronmiller and Baldwin are successfully combinable (which they are not), the alleged combination does not teach or suggest all the elements in the claims.

Example 1

The independent claims recite numerous recitations that are not taught or suggested Kronmiller and Baldwin. For example, claim 1 recites designating at least one edge for the border tile and then “determining a spatial relationship between the designated edge of each border tile and the polygon.” Similarly, claim 16 recites “identifying a spatial relationship between the edge and the polygon.” The Office Action cites Kronmiller at column 9, lines 62-27 and column 10, lines 1-4 for teaching these recitations. Applicants respectfully disagree.

FIG. 10 in Kronmiller teaches how to store data relating to lines on an integrated circuit (9: 31-33). Each tile data structure is stored as an ng tree (9: 43-37). FIG. 11 (cited by the Examiner) relates to FIG. 10. Specifically, FIG. 11 teaches how to create and query the data structure for FIG. 10 (9: 58-60). In other words, the cited sections merely teach the process for storing the data structure as an ng tree. This section of Kronmiller is not related whatsoever to determining spatial relationships between an edge of each border tile and the polygon.

In short, column 9, lines 62-27 and column 10, lines 1-4 relate to a process for storing and querying data in an ng tree. Nowhere do these sections teach or even suggest

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determining a spatial relationship between an edge for each border tile and the polygon.
Again, these sections teach a specific structure for storing data.

For at least these reasons, a prima facie case of obviousness does not exist.

Example 2

As another example, claim 1 recites designating an edge for each border tile. Claim 1 further recites “generating the attributes of the border tiles based on whether the designated edge of each border tile crosses the polygon, is within the polygon, or is outside the polygon.” Nowhere does Kronmiller and Baldwin teach or suggest these recitations. In fact, the Examiner admits that Kronmiller does not teach or suggest these recitations:

Kronmiller discloses all of the claimed limitations as stated above, except that generating the attributes of the border tiles based on whether the designated edge of each border tile crosses the polygon, is within the polygon, or is outside the polygon. (See OA at p. 6).

Thus, the issue is: Does Baldwin teach or suggest these recitations? Baldwin does not.

The Office Action cites Baldwin at paragraphs [0104], [0111], and [0119]. These paragraphs are directed to specific rasterizer subsystem. This section does state: “Once the edges of the primitive and a start tile is known the rasterizer seeks out tiles which are inside the edges or intersect the edges” ([0104]). This section and the others, however, do not teach or suggest the recitations as they appear in the claims. For example, claim 1 recites designating an edge for each border tile. As then recited in claim 1, attributes for the border tile are generated based on whether this same “designated edge” crosses the polygon, is within the polygon, or is outside the polygon. **Baldwin never designates an edge for each border tile as claimed.** Baldwin’s rasterizer does not first designate an edge “for each border tile” and then generate attributes based on whether this edge crosses the polygon, is within the polygon, or is outside the polygon. By contrast,

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Baldwin uses edges for **rasterization**. Rasterizers convert a two-dimensional image described in a vector format into pixels or dots for output on a video display (see online Wikipedia for more information about raster graphics and rasterization: <http://en.wikipedia.org/wiki/Rasterisation>).

For at least these reasons, a prima facie case of obviousness does not exist.

II. Claim Rejections: 35 USC § 103

Claim 13 is rejected under 35 USC § 103 as being unpatentable over Kronmiller and Baldwin in view of JP 410240952 (Nishihara). This rejection is traversed.

As discussed above in section I, Kronmiller and Baldwin fail to establish a prima facie case of obviousness. Nishihara does not cure the deficiencies of Kronmiller and Baldwin. Thus, for at least the reasons provided in section I, claim 13 is allowable over Kronmiller, Baldwin, and Nishihara.

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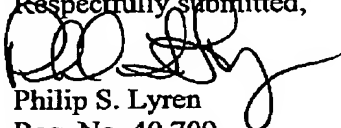
CONCLUSION

In view of the above, Applicants believe all pending claims are in condition for allowance. Allowance of these claims is respectfully requested.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. (832) 236-5529. In addition, all correspondence should continue to be directed to the following address:

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CERTIFICATE UNDER 37 C.F.R. 1.8

The undersigned hereby certifies that this paper or papers, as described herein, is being transmitted to the United States Patent and Trademark Office facsimile number 571-273-8300 on this 8th day of June, 2006.

By 
Name: Carrie McKerley

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